Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated as a non-commercial institution for the increase of geographic knowledge and its popular diffusion. General Headquarters, Washington 6, D. C.)

December 3, 1945. Vol. XXIV. No. 10.

- 1. Enlarged Federal District Encloses Ottawa, Canada's Capital
- 2. Tientsin, China Trouble Spot, Was Battleground in Boxer War
- 3. Channel Islands, on France's Doorstep, British for 900 Years
- 4. Stratosphere Balloon Flight in 1935 Helped Win War in Air
- 5. Geo-Graphic Brevities: Wiese Island-Egypt



G. B. Gilbert and H. K. Baisley

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Enlarged Federal District Encloses Ottawa, Canada's Capital

ROCLAMATION by Canada's Premier establishing a Federal District of 900 square miles adds the Dominion to the list of countries which have set apart areas for their national capitals—among them Australia, Brazil, Mexico, Venezuela, and the United States. Ottawa continues to serve as the capital city.

Besides the city, the countryside to be included in the district is rolling, furrowed with several streams, and figured with fields and stands of timber. About 20 miles north of the city lie the blue Laurentian Hills, broken by the valleys of the Gatineau and other rivers. Villages and hamlets, linked with a network of highways and railroads, dot the landscape.

Built-up Area Covers Only 13 Square Miles

Canadians were interested in the establishment of a national administrative district as long ago as 1893 when another premier envisaged Ottawa, in the Province of Ontario, as "the Washington of the North." Such a center, he believed, would draw Canadians into a deeper appreciation of their history, traditions, and culture; would enlarge their sense of national unity; and would focus their hopes

and ideals as a people.

Interest in local aspects of the project was recognized in 1899 by the federal government through provision for an Ottawa Improvement Commission vested with authority to buy and hold land in the city for park or street use. A beautification problem was also in view. Officially active for more than 25 years, this commission gave way in 1927 to a Federal District Commission financed with a grant from the federal government. Improvements made by the new commission were restricted to the 13 square miles occupied by Ottawa and its neighboring town of Hull, across the Ottawa River in the Province of Quebec.

The area newly designated as federal ground about matches the territory Australia acquired in 1911 from New South Wales for its capital, Canberra. Canada's federal area could include almost 13 Districts of Columbia. Too close a comparison should not be drawn between Canada's federal district and those of other countries. Politically the area remains under the provincial governments of Quebec and Ontario. Citizens will continue to vote as citizens of Quebec and Ontario. Physical planning and adornment of the capital are the primary reasons

for the federal area.

Federal Property Tax Free; Yearly Payment Made to City

Planning so far has been wholly concerned with the city of Ottawa. It looks toward major changes east and west of the government buildings on Parliament Hill. Street widening, expansion of park spaces, and the removal of many structures in the administrative area are basic requirements. A new post office building and a new home for the supreme court have already been built. Construction in view includes other public buildings, new driveways, and a mall extending along the Ottawa River. The cost of this transformation is estimated at \$30,000,000.

Capital since 1858, Ottawa has a dual character in government. It is the national headquarters of some 11,400,000 people; it is a municipality of 143,000 citizens managed by an elected mayor and city council. Civil service is its chief occupation, but the development of water power has brought considerable indus-

trial activity, notably in pulp, paper, and lumber mills.

Federal government land and buildings, tax free, are estimated to equal one-

Bulletin No. 1, December 3, 1945 (over).



B. Anthony Stewart

LATITUDE AND LONGITUDE ARE THE ADDRESS ON A TOWNLESS ISLAND

With her neatly trimmed pet dog, Sark's hereditary ruler stands at the entrance to her home. Carved in the granite above the doorway is the geographic address of the old manor—rather than a street number. Country lanes rim cliffs and curve across the moors of Sark. There is not a single town. In 1939 the ruler of this sylvan paradise lectured about her island realm to members of the National Geographic Society in Washington, D. C. (Bulletin No. 3).

Published Weekly by

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Tientsin, China Trouble Spot, Was Battleground in Boxer War

CTATIONING of United States Marines at Tientsin is a reminder that an American force figured in an action in the city during the Boxer troubles at the turn of the century. Today this gateway city to north China is one of the sore spots in the area of friction between China's nationalists and communists.

The Boxers, members of a powerful secret society, were organized to drive foreigners from China. They besieged Peiping, then the capital, and cut its communications. An international force was put in the field and concentrated its first attack on Tientsin, capturing the city in July, 1900, after severe losses. The problems of foreign territorial holdings raised by the Boxer movement were settled through diplomatic exchanges between China and the powers concerned.

Foreign Pressure Forced Concessions, Brought Trade and Growth

Only 80 miles from Peiping and 30 miles from the sea, Tientsin has long been regarded as the natural gateway to the old capital. Japanese troops occupied Tientsin July 30, 1937, on one of the first moves growing out of the "China incident," an alleged attack by Chinese soldiers at the Marco Polo Bridge in Peiping. Tangku, seaport for Tientsin, along with Anshan in Manchuria, was bombed by B-29's on July 29, 1944, in the first daylight raid of Superfortresses.

Pressure by foreign powers for concessions on China's coast brought international importance to Tientsin in 1860. In that year the town became one of the "treaty ports," and was opened to world trade. Specified districts south of the native town were granted to foreign nations for their use and development under their own jurisdictions, with provision for consular and customs offices and sizable garrisons. Less than a century old in its modern phase, Tientsin at the outbreak of the Second World War had about 1,292,000 residents. Its floating population of seasonal workers-mostly coolies-was estimated at 60,000.

Trade and industry have been the city's primary interests. For centuries Tientsin has figured importantly in the commerce of its hinterland. Grain from the northern and western provinces flows to its mills. Tribute rice from southern coastal communities once moved northward through the city to Peiping. Water-

borne traffic on the Grand Canal swelled the volume of shipments.

Preparation of salt is normally a distinctive industry in near-by areas. Windmills churn the air as they pump saline waters to basins for evaporation; mounds of salt are heaped up along the river banks awaiting shipment. Iron products are a local specialty. Wool cleaning, soap and glass making, and textile weaving are important occupations. Albumen is extracted from eggs for use in medicines and as a dyestuff. Matches are a staple product.

City Began Life in 14th Century as a Garrison Post

Situated on a broad plain, Tientsin-meaning Heaven's Ford-lies at the junction of the Grand Canal and the Hai River, near where several tributary streams come together (map, next page). The Hai River links the city to the Gulf of Chihli, an arm of the Yellow Sea. The 900-mile Grand Canal, a waterway dating from the sixth century and now outmoded by railway construction, connects Tientsin with Shanghai and the Yangtze River cities.

Before the war, ships drawing up to 15 feet used the channel from the Gulf of Chihli to Tientsin. Ships of deeper draft usually depend on the anchorage at

Bulletin No. 2, December 3, 1945 (over).

fifth of the city's total assessment. In lieu of taxes the federal government pays the city \$100,000 a year to meet the cost of services the city provides for government property-fire and police protection, water, and the like.

Urban Ottawa sprawls along the high southern bank of the Ottawa River for about two miles upriver from the falls of the Rideau River, southern feeder of the Ottawa. Suburban developments have pushed along the eastern bank of the Rideau. West of the city limits the outskirts extend for about five miles.

The city is divided into two main sections by the Rideau Canal (illustration, below)—a western English-speaking Upper Town, and an eastern French-speaking Lower Town. Beyond the mouth of the Rideau River, on the east, the Gatineau River pours into the Ottawa from the northwest. Only 45 miles to the southeast lies the nearest point in New York State.

British engineers sent in 1826 by the home government to survey a route for a canal to link the Ottawa to the St. Lawrence formed the core of settlement. The settlement grew to a village, and the village became a town. Until 1854 the budding city was known as Bytown, a name honoring Colonel By, the officer in charge of the survey. In 1854 the name was changed to Ottawa. It is derived from the Ottawa tribe of Indians, the term meaning "traders."

Note: Ottawa is shown on the National Geographic Society's Map of Canada. A price list

Note: Ottawa is snown on the National Geographic Society's Map of Canada. A price list of maps may be obtained from the Society's Headquarters, Washington 6, D. C.
For additional information, see "Canada's War Effort," in the National Geographic Magazine for November, 1941*; and "Ontario, Next Door," August, 1932; and in the Geographic School. Bulletins, March 27, 1944, "Canada Aids Allies as Arsenal and Larder." (Issues marked with an asterisk are included in a special list of Magazines available to teachers in packets of ten for \$1.00.

Bulletin No. 1, December 3, 1945.



OTTAWA, THE "WASHINGTON OF THE NORTH," ENJOYS ITS WINTER SPORTS

Lining the frozen Rideau Canal, Ottawans watch the finish of a dog-sled race. Parliament buildings of Canada's capital rise in the background, topped by the Peace Tower. Beyond the bridge the little-used canal drops through seven locks to the Ottawa River, which freezes over in the wintertime and provides a playground for skating, sledding, and trotting races.

Published Weekly by

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General Headquarters, Washington 6, D. C.

Channel Islands, on France's Doorstep, British for 900 Years

THE arrival in London of the Dame of Sark, woman ruler of a British isle, to arrange for the restoration of her feudal domain, recalls that the Channel Islands are entering their first winter of freedom since the Germans moved in.

Attached to England since the Norman Conquest, these islands—geographically part of France—were the only British territory occupied by Germany in World War II. On the fall of France, St. Helier, on Jersey, and St. Peter Port, on Guernsey (the islands' chief towns), were declared open cities. The local militia and nearly 30,000 civilians were evacuted to Great Britain. The remaining 65,000 lived at the mercy of the Germans from July 1, 1940, until May 9, 1945, when a British liberation fleet arrived. It brought troops to clear out the invaders, and food, clothing, and fuel for the desperately needy islanders.

Closer to France than to England

Jersey, Guernsey, and Alderney, the three main islands of the group, form a triangle with two sides about 17 miles and 19 miles, respectively, and the third (eastern) side about 30 miles. Within the triangle is Sark (illustration, inside cover), an island Eden, about two square miles in area. This little island with a long history—there are ruins of a sixth century monastery near the 16th century home of the modern ruler—has been called "an emerald set in a sapphire sea."

The islands lie in the northeast waters of the deep elbow bend formed by the Normandy peninsula on the east and the Brittany peninsula on the south. Jersey is the biggest. Roughly rectangular, it covers about 50 square miles. It is less than 15 miles from France and about 90 miles from England. Triangular Guernsey, about 25 square miles in area, is some 30 miles from France, 70 from England. Alderney, northernmost of the group, is less than 10 miles from the French coast, 65 miles from England. Its area is about 3½ square miles

The islands are generally hilly near and along the coasts. Roads rim Jersey and Guernsey and crisscross inland. The only railway in the islands runs along the southern shore of Jersey from Corbière on the west through St. Helier, chief port, to Gorey Pier below Mont Orgueil Castle (illustration, next page) on the east coast. The entire trip from railhead to railhead could be made in an hour. On Guernsey an electric car connects the principal town, St. Peter Port, with St. Sampson's, about a mile and a half north along the coast.

Gave a Name to One of the United States

Of the prewar population of the islands—about 93,000—more than 50,000 lived on Jersey; 40,600 on Guernsey and its near-by islands; 1,500 on Alderney; and less than 700 on Sark and its neighboring islets. The official language of the group is French, and an old Norman variety is often heard. English is widely spoken, and is a required subject in the schools of Guernsey and Sark.

Two of the United States are historically connected with the Channel Islands. When Charles II was restored to the English throne he rewarded his staunch supporter, Sir George Carteret, with a grant of American lands. Sir George named Carolina for his king and New Jersey for his Channel Islands home.

Another resident of Jersey—Sir Walter Raleigh, a governor of that island under Queen Elizabeth—encouraged emigration to Newfoundland, and saw the codfish trade between America and Europe develop during his term of office.

The islands were a popular prewar resort. One of the objectives of the Dame

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Taku and transfer passengers and freight to rail-served Tangku, both inside the entrance to the Hai. Shallow draft vessels can usually proceed to Peiping, about 90 river miles upstream from Tientsin. Railways and roads radiate from Tientsin,

linking it to Peiping and lesser centers of the region.

Built on a silted flat, Tientsin began its life late in the 14th century as a garrison post. It grew by the settlement of migrants. Walls were put up in 1404, and stood until 1900. Sections crumbled under bombardment by foreign troops engaged in quelling the Boxer uprisings; remaining sections were pulled down later to make way for a wide thoroughfare. The plains city is little protected from the area's cold winters and hot, humid summers.

Except for the buildings of the foreign concessions and a few temples, Tientsin offers little to attract visitors. Business structures give the city its architectural character. One of its busiest arteries—"Clothes Selling Street"—is lined with typical shops that ordinarily displayed a wide variety of fabrics, furs, and jewelry. With its foreign concessions, its Bund, and its large trade, Tientsin has been called the Shanghai of the north.

Note: Tientsin is shown on the Society's Map of China. See also, "Today on the China Coast," in the National Geographic Magazine for February, 1945; and "Coastal Cities of China," November, 1934.

Bulletin No. 2, December 3, 1945.



Drawn by Ralph E. McAleer

GATEWAY CITY FOR PEIPING, TIENTSIN ITSELF IS SERVED BY A DOUBLE GATEWAY

—THE TWIN PORTS OF TAKU AND TANGKU

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Stratosphere Balloon Flight in 1935 Helped Win War in Air

RMISTICE DAY, 1945, was the tenth anniversary of the record-breaking A balloon flight which, rising from the Black Hills of South Dakota, reached a height of nearly 13¾miles. From this ascent into the stratosphere, sponsored by the National Geographic Society and the U. S. Army Air Forces, came many of the scientific findings which helped to create United States air superiority in war and peace.

Captains Albert W. Stevens (now a lieutenant colonel and retired) and Orvil A. Anderson (now a major general and in Japan), on November 11, 1935, took the huge 20-story-high balloon—*Explorer II* (illustration, cover)—up to a height of 72,395 feet above sea level—still the world's altitude record.

More than a ton of scientific instruments accompanied them. Recordings made by the instruments, observations of the intrepid officers, and a thorough study and analysis of the information obtained by the ascension furnished data which made possible many of the technical superiorities United States airmen enjoyed over the Germans and Japanese.

Foreshadowed the B-29's Pressurized Cabin

The history-making flight ranked in importance as news in 1935 with the Italian-Ethiopian war. While headlines shouted, aviation engineers quietly got some of the answers which made possible the B-29 Superfortresses which ranged

over Japan at new heights for bombers.

Out of that balloon flight to the world's roof came the pressurized cabin of the B-29. The nine-foot ball-like gondola (illustration, next page) of the Explorer II, made out of the then comparatively new magnesium, was able to withstand the relatively high inside pressure in the rarefied stratosphere. The men moved easily without loss of energy, kept alive by their "tailor-made" air—a combination of vapors from liquid oxygen and nitrogen. This man-made atmosphere was maintained at a lower pressure than that at ground levels to lessen the pressure contrast between the inside and outside of the gondola.

Partly as a result of this experimentation, the B-29 was the only high-altitude bomber used successfully by any power during the war. It could speed through the stratosphere while withstanding the inside pressure resulting from high altitude. Its crewmen moved freely while kept ever alert by controlled oxygen.

In the early days of the AAF, Captain Stevens had been a pioneer in aerial photography and was the outstanding expert in that infant field. From the flight of Explorer II, he brought back one of the most remarkable pictures ever to be viewed by man. A camera registered the horizon 330 miles away, sweeping like a great arch across the photograph, and revealed the actual curvature of the earth. Observations made by Captain Stevens aided in the later development of the huge vertical aerial still cameras which helped to search out secrets for Allied military intelligence in both Germany and Japan.

General Arnold Declares Research Must Be Continued

From the National Geographic Society-U. S. Army Air Forces "top of the world" flight came tests which helped develop American superiority in radio communication from plane to plane and from plane to ground. The trip to new heights afforded the first opportunity to study ultra-short-wave radio transmission

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of Sark's trip to England is the rebuilding of Sark's three hotels and increased ship service from there to Guernsey—Sark's way station to the mainland.

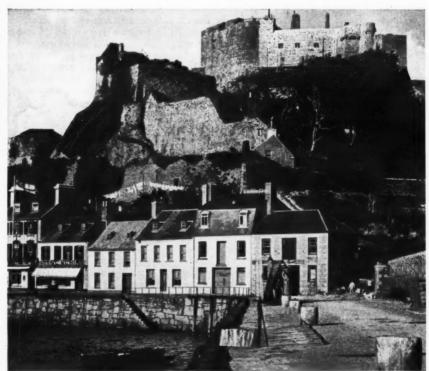
Famous the world over for their dairy cattle, Jersey, Guernsey, and Alderney have other distinctions. Jersey grew potatoes and tomatoes in large quantities for the English market. An average of 60,000 tons of potatoes and 25,000 tons of tomatoes were exported before the war. Although peaches, grapes, and melons are grown on Guernsey, the chief crop is tomatoes, of which 35,000 tons were exported in 1939. In 1938 more than 900 acres of Guernsey's fruit and vegetables were grown under glass.

Granite from Guernsey's quarries is the sturdy stuff of many English buildings. On that island the exiled Victor Hugo wrote three of his greatest tales—"Les Miserables," "The Man Who Laughed," and "Toilers of the Sea."

Stormy and treacherous seas beat on wild Alderney, regarded by Napoleon as "the shield of England." Seven miles west are the dangerous Casquet Rocks.

Note: The Channel Islands are shown on the Society's Map of the British Isles. See also "The Feudal Isle of Sark," by La Dame de Serk, in the National Geographic Magazine for July, 1932; and "The Channel Islands," August, 1920; and in the Geographic School Bulletins, November 2, 1942, "Commandos Raid Channel Steppingstone, Isle of

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MONT ORGUEIL, TOURIST LURE IN THE CHANNEL, TOWERS ON A JERSEY CAPE

Most notable of Jersey's ancient landmarks, Mont Orgueil Castle rises on a grass-patched granite headland on this Channel isle. Below its massive stone battlements stretches a row of narrow old houses built in the shoulder-to-shoulder huddle characteristic of villages in the Channel Islands. The Castle was begun by the dukes of Normandy before the Conquest, and its building continued through the reigns of several English kings. In consequence, it is an excellent illustration of how an early Norman castle can develop into a Tudor fortress.

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Geo-Graphic Brevities

NEW SOVIET WEATHER STATION ON WIESE ISLAND TO GIVE DATA TO U. S. SHIPS

THE BIGGEST news coming from Wiese Island (Ostrov Wiese) is going to be the weather. Construction of an observation center on the island is further evidence that the Soviet Union is doing something about its worst weather—Arctic Ocean moisture, winds, and temperatures. Information bearing on the navigation of far-northern sea routes, according to a dispatch from Archangel, will be made available to United States ships.

Site of the new station, Wiese Island lies at the approximate center of a triangle formed by the island clusters of Franz Josef Land on the northwest; Novaya Zemlya (New Land) on the southwest; and to the east, Severnaya Zemlya (North Land), which was formerly Nicholas II Land. Each of these island groups is roughly 200 miles from Wiese.

Low, flat, and belted with a four-mile strip of ice even in midsummer, the island is about 19 miles long and six miles wide. Between it and Severnaya Zem-

lya a patch of shallow water extends for 100 miles or so.

Wiese Island was discovered on August 13, 1930, by members of a Soviet meteorological expedition navigating Arctic waters in the icebreaker Sedov. It was named after Professor W. J. Wiese, one of the scientists in the party. Existence of the island had been predicted by Professor Wiese several years before its actual discovery. He based his reasoning on ice conditions in the vicinity of the island as reported in the account of a voyage made in 1912-14 by the ship St. Anna. Other islands were discovered and named by the 1930 expedition.

By 1932 three observation and radio stations had been set up in far-northern latitudes-on Hooker and Rudolph islands in Franz Josef Land, and on Cape Chelyuskin, tip of the Taimyr Peninsula, a mainland finger thrust toward Severnaya. Scientific expeditions have surveyed ship routes in this region, collected tidal information and investigated the upper air with radiosonde equipment (small

balloons bearing miniature radio transmitters).

Ice-capped Franz Josef Land, discovered in 1873 by the Austrian polar explorers Weyprecht and Payer, was Austrian territory until 1929 when it was annexed by the Soviet Union after formal notice to Austria. Severnaya Zemlya was discovered in 1913 by the Russian navigator Vilkitski.

Note: Wiese Island (Ostrov Wiese) is shown on the Society's Map of the Union of Soviet Socialist Republics.

EGYPT'S KING ASKS REAL EQUALITY, CLOSE TIES WITH ENGLAND

YOUNG King Faruk recently opened the Egyptian Parliament with a plea for close relations with England, but on a basis of real equality. The urge for complete freedom from foreign occupation stirred along the Nile last summer when Egypt sought an end to limitations on the kingdom's sovereignty as embodied in the Anglo-Egyptian Treaty of Alliance signed in 1936.

That treaty, supposed to be effective for 20 years without change, terminated the general British military occupation of Egypt, but recognized British interest in the defense of the Suez Canal zone, which lies wholly within Egypt. Britain was authorized to maintain garrisons in specified areas along the Canal and to

move troops over Egyptian territory in the event of war.

Bulletin No. 5, December 3, 1945 (over).

and reception at the heights which American bombers and fighters were to fly

during World War II.

A host of other factors came to light ten years ago on that momentous day: stratosphere temperatures, means of high-altitude measurements, the activities of cosmic rays, intensity of solar radiation, wind velocity . . . all little-known factors which at that time Army engineers, airplane research men, and scientists had to know to keep the United States ahead in the race for control of the air.

Even ten years ago, when air power was an infant arm, the Army and our scientists recognized that for our peace and security we had to continue pre-

eminent in research.

As recently as a month ago, before a Congressional hearing, General H. H. Arnold, commanding general of the Army Air Forces, declared, "Comprehensive research, both within and without the air forces, must be continued. The spectacular innovations in technical warfare which appeared with ever-increasing momentum in World War II . . . have made us externely conscious of the necessity for continuous scientific research to ensure the maintenance of our national security and the peace of the world."

Ten years ago the taking of the huge balloon over 13 miles above the earth by Captain Stevens and Captain Anderson provided study in 14 fields of research related to things air-minded men wanted to know. Today, according to General Arnold, there are still 24 fields, related and unrelated to the original 14, open for exploration and development which will help determine tomorrow's air superiority.

Note: For additional information on stratosphere research, see "Man's Farthest Aloft," in the *National Geographic Magazine* for January, 1936*; "Exploring the Stratosphere," October, 1934; and "Ballooning in the Stratosphere," March, 1933*.

Bulletin No. 4, December 3, 1945.



Richard H. Stewart

THIS GONDOLA TOOK TWO MEN AND A TON OF INSTRUMENTS TO NEW HEIGHTS

Lying on its side just a few moments after landing between White Lake and Platte, South Dakota, the magnesium sphere is surrounded by a crowd which had followed the balloon in automobiles. Captain Albert W. Stevens (now a lieutenant colonel, retired), one of the balloonists, is standing hatless beside the gondola. With him on the record-breaking flight 10 years ago was Captain Orvil A. Anderson, now a major general in Japan.

The 1936 treaty also continued the joint administration of the big Anglo-Egyptian Sudan which was first set up in 1899. The Sudan lies up the Nile to the south of Egypt. The Egyptians, desiring unification of the Nile Valley under their government, seek revision of the treaty and the withdrawal of all British troops from the Sudan.

Long a part of the Turkish Empire, Egypt came under British control in 1882. A British Protectorate was declared in 1914 and terminated in 1922, when the independent kingdom was established. Government of the kingdom followed the British pattern with a two-house Parliament consisting of a Senate and a

Chamber of Deputies.

As large as Texas and Arizona combined, the land of the pyramids and the sphinx (illustration, below) is a corner of the dry Sahara. Its economy hinges on the one-thirtieth of its area that is watered by the Nile. Construction of dams and networks of canals under British engineering direction has in recent years greatly expanded irrigation on which Egyptian farming has been based for no less than 6,000 years. Cotton is the leading crop; sugar cane, grain, tobacco, and vegetables are produced in volume.

Germany's Afrika Korps, storming eastward into Egypt late in 1942, reached El Alamein, within 200 miles of the Suez Canal and 150 miles of Cairo. The Nazi stronghold on the island of Crete was only 150 miles off Egypt's coast. Britain manned the country's ground defenses while the United States set records in establishing big bases for air power, and the crisis of Egypt's capture by the Axis

was narrowly averted.

Axis success in Egypt, besides giving the enemy supplies of cotton, oil, and food, would have closed the Suez Canal and the Mediterranean to Allied ships and would have been an important step toward junction of Germans and Japanese.

Note: Egypt appears on the Society's Map of Africa. For further information, see "Red Cross Girl Overseas," in the National Geographic Magazine for December, 1944; and "War Meets Peace in Egypt," April, 1942.

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American Red Cross

A WARTIME GUIDE EXPLAINS THAT SANDBAGS UNDER THE SPHINX'S CHIN WOULD PRESERVE THE INSCRUTABLE FEATURES IN CASE OF A GERMAN BOMB HIT

